

Los Angeles Unified School District

A Strategic Plan for Sustainable Energy Management and Environmental Stewardship

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Ken – Vision, Mandates, Goals, and Needs Intersect



Vision for LAUSD Facilities Services Division Leadership Starts with a Vision

Provide, at best value, superior, sustainable schools that exceed expectations, enhance student productivity and reflect our commitment to environmental leadership

Through strong partnerships with public, private and non-profit organizations, LAUSD schools are serving as centers of community; construction and modernization projects are enhancing the educational, environmental and economic condition of neighborhoods



Mandates, Goals and Needs Intersect

Sustainability Policy

Climate Change Legislation
CA Global Warming Solutions Act (AB 32)

- High efficiency
- Sustainable design
- New technologies
- Renewable resources

Energy and Environmental Policy

New construction & refurbishing schools
High Performance Schools Program (CHPS)



LAUSD Facility Goals

Provide best value for each school facility and the taxpayers by establishing strategic and tactical partnerships with customers, comparing costs with the private sector, and measuring customer satisfaction.

Achieve responsible asset management by diligently and fully implementing the “Family of Plans,” deriving maximum benefit from the LAUSD inventory, and implementing the National Portfolio Strategy.

Operate efficiently and effectively by applying results-oriented business measures, sharing best practices, evaluating the organization to ensure optimum support, managing operating costs, and improving project delivery for revenue start.



LAUSD Facility Goals

Ensure financial accountability by establishing financial targets and measures, maximizing funds from operations, and maintaining accurate financial data.

Maintain a world-class workforce and a world-class workplace by promoting associate engagement and development, succession planning, and a world-class workplace in conjunction with LAUSD's national Human Capital Strategy.





LAUSD Facility Goals

Carry out social, environmental, and other responsibilities as a public school district by maintaining an active child care program, supporting the Good Neighbor Program, promoting “green” programs, conserving energy, and meeting Procurement Preference Program goals.



LAUSD Energy Objectives

To achieve our objectives, we will . . .

Improve asset value and reduce operating costs

Maintain efficient, sustainable schools with comfortable conditions that enhance productivity, meet student and teacher needs, and achieve financial objectives.

Ensure focus on sustainability in facility design, renovation, and construction

Enhance, support, and guide District processes to ensure that new and renovated schools are designed, constructed, commissioned, and operated with sustainability in mind.



LAUSD Energy Objectives

To achieve our objectives, we will . . .

Install renewable systems and procure renewable source energy

Seek to influence the movement of schools toward renewable energy sources by installing renewable systems and procuring energy from renewable sources, as well as leveraging buying power to obtain the best pricing available in the market.

Optimize energy use

Consistently implement demand reduction and energy conservation measures at our schools.



LAUSD Energy Objectives

To achieve our objectives, we will . . .

Provide education

Educate and involve students, teachers, administrators, parents, and visitors in energy conservation efforts so they make informed choices that have positive environmental results.



LAUSD Facilities Division Accomplishments

Accomplishment ... by

Accomplishment by ...

Accomplishment ... by



Arun – Strategic Planning



Arun Jhaveri and Associates



LAUSD Strategic Plan – Guiding Principles

- Sustainability concept
 - Environmental stewardship
 - Economic prosperity
 - Social justice
- Leadership in energy efficiency
 - Renewables
 - Climate change
 - Sustainable bldg design, construction, renovation, operation & maintenance
 - Resource conservation
- Life Cycle cost Effective Implementation, Teamwork Approach



LAUSD Strategic Plan – Scope and Strategies of an Action Plan for Energy, Environment and Sustainability

- Review / assessment of existing conditions
- LAUSD vision, mission, goals and objectives
- Applicable local, state and federal standards
- Innovative technologies and best practices
- Short term and long range recommendations
- Program implementation guidelines
- Realistic potential of savings, benefits and results



LAUSD Strategic Plan – Program Deliverables and Project Schedule

- Fast track 3month study / research period
- On-going communications / coordination
- Draft and final documents reviews
- Practical and realistic recommendations
- Final report submittal in PowerPoint



Deb – Developing the Strategic Plan

A Road Map

Supporting smart financial and thoughtful decisions



Elements of the Energy & Environmental Sustainability Plan

- *Letter to staff and students*
- *LAUSD Vision for Sustainability*
- Executive Summary
- Introduction
- LAUSD Organizational Structure
- Policies and Mandates
- Approach and Process
- Strategies and Best Practices
- Conclusion
- Contacts
- Appendices



Policy – National

Energy Policy Act, signed August 5, 2005

- The Act along with its amendments to the National Energy Conservation Policy Act, forms the statutory basis of energy management programs for public buildings.
- Subtitle B Energy Assistance and State Programs, Section 124 of the Act focuses on energy efficiency in public buildings



<http://www.cemtp.org/PDFs/EnergyBillHighlights.pdf>



Policy – State of California

California Assembly Bill 32 Global Warming Solutions Act

Limits Greenhouse Gas Emissions at the state level

- Annual mandatory reporting of GHG emissions for significant sources.
- Includes Carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride



Policy – State of California

California Executive Orders

- **Executive Order S-3-05**

Establishes Greenhouse Gas targets for California's public buildings

- Will be at year 2000 levels by 2010
- Will be at 1990 levels by 2020
- And, will be 80% below 1990 levels by 2050.

- **Executive Order S-06-06**

Directs state agencies to collaborate, research, promote, and identify funding to advance biomass programs in CA

- CA must produce a minimum of 20% of its own biofuels by 2010, and 40% by 2020.
- Calls for the use of biomass for electricity to reach 20% within the state's Renewables Portfolio Standard (RPS) goals for 2010 and 2020.

- **Executive Order S-20-06**

Directs the development of an emissions trading system as part of Assembly Bill 32.

- Develop a plan by June 1, 2008 to incentivize investment and compliance, enhance research, and develop and demonstrate GHG reduction technologies through various methods.



Policy – State of California

Codes and Standards

California Revised Building Energy Codes (CA BEC Rev)

- Title 20, 2006 Appliance Efficiency Regulations
 - 21 categories of appliances
 - Apply to appliances sold or offered for sale in California
- Title 24, Part 6, California's Energy Efficiency Standards for Residential and Nonresidential Buildings
 - Updates adopted to reduce energy bills, statutes and regulations, and emphasize energy efficiency measures.



Policy – City, County or School District Policy

The Collaborative for High Performance Schools (CHPS)

CHPS was founded in 2000 as a non-profit organization working to improve the quality of education for California's children.

- Nation's first building rating program created to facilitate the design of school learning environments
- Guidance for schools
 - Air quality
 - Thermally, visually, and acoustically comfortable
 - Efficient in use of energy, water and materials
 - Easy to use and maintain
 - Have a commissioning plan
 - Ensure existing natural areas are protected and restored
 - Safe and secure schools
 - Feature stimulating architecture



Policy – City, County or School District Policy

Global Green Southern California Schools Initiative

Global Green launched a new effort focused on K-12 schools in S. California in 2004.

- Initiative integrates the green building principles developed by CHPS with broader neighborhood and regional issues.
 - Energy generation
 - Stormwater management
 - Joint-use of school facilities
 - Growing movement to use school buildings as teaching tools
- LAUSD has adopted policies requiring CHPS for all future projects
- Global Green is working to ensure these policies are fully implemented
- Goals of the initiative:
 - Ensure implementation of LAUSD green schools policy
 - Encourage other S.CA school districts to adopt green school policies
 - Develop state legislation to ensure all new and modernized schools are built to CHPS minimum design standards
 - Create additional showcase schools that incorporate cutting-edge practices to educate, inform and inspire LAUSD and other districts
 - Create a coalition to provide a S.CA base of support for statewide green schools policies and initiatives

<http://www.globalgreen.org/greenbuilding/GreenSchools-SC.html>



Policy – LAUSD Facilities Services Division Policy & Guidance

LAUSD policy, standards and guidance, meets or exceeds the federal and state legislation and executive orders regarding environment and energy and emphasizes:

- Efficient and effective operations
- Enhance student productivity



Policy – LAUSD Facilities Services Division Policy & Guidance

LAUSD Roadmap - Initiative #3

Increase the use of clean, renewable energy to reduce dependence on fossil fuels and to optimize environmental benefits and sustainability



Policy – LAUSD Facilities Services Division Policy & Guidance

LAUSD Environmental Management System

Leadership in Environmental Management document

- Integrate environmental accountability into all operations
 - Implement strategies to support environmental policies and procedures
 - Comply with environmental regulations
 - Emphasize pollution prevention
 - Inform workers and the public of possible pollution sources
 - Develop environmental management system



Approach & Process

Elements of the Process

- Administration – Advisory Board & Energy Management Team
- Budget submissions, Bonds & Alternative Financing
- Performance & Evaluation – supports success through continuous improvement
- Training & Education – staff, students and broader outreach to the community



Approach & Process

Elements of the Process

- Coordination & Collaboration
 - Build internal and external partnerships
 - Sustainability Charrettes support education, awareness, and collaboration while gathering key information
- Employee & Student Awareness
 - Supports environmentally sound choices
 - Supports wise procurement practices
- Awards & Recognition - Provide awards & recognition for staff, architects, engineers, teachers, students & partners



Strategies & Best Practices

- Life-Cycle Cost Analysis
- Facility Energy Audits & Assessments
- Project Funding & Financing
- Energy Efficient & Sustainable Procurement
- Sustainable Building Design & Construction
- Building & System Commissioning
- Operations & Maintenance

**For each of these
the plan includes:**

- **Goals**
- **Strategies**
- **Policies**
- **Action Plans**

Commit resources and implement actions for planning, implementation & maintenance

Manage sustainability comprehensively

Educate staff and students about strategies & best practices



Strategies & Best Practices

- Best Practices for Educational Facilities
- Best Practices for Water Management
- Highly Efficient Systems
- Greenhouse Gas Emissions Reduction
- Petroleum Use Reduction & Energy Security

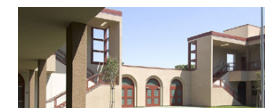
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Commit resources and implement actions for planning, implementation & maintenance

Manage sustainability comprehensively

Educate staff and students about strategies & best practices



Strategies & Best Practices

- Source Energy
- Renewable Energy
- Recycling
- Vehicles

**For each of these
the plan includes:**

- **Goals**
- **Strategies**
- **Policies**
- **Action Plans**

Commit resources and implement actions for planning, implementation & maintenance

Manage sustainability comprehensively

Educate staff and students about strategies & best practices



Appendices

- Energy Management Team & Advisory Board
- Action Plan – goals, resources and implementation schedule
- Sustainability Scorecard – evaluating performance
- Staffing Requirements



Andy – Transition to Action

A Tactical Plan

An on the ground plan of action to implement smart financial, thoughtful decisions that move LAUSD toward its vision

“Characterized by adroitness, ingenuity, or skill”



Andy – Tactical Plan – Next step for LAUSD

An Environmental Design Charette is a focused site-specific project identification meeting, gathering together a multi-disciplinary team of experts and pulling together both district and non-district expertise.

This meeting will serve as the planning and decision-making phase for a multi-year process of moving the school district facilities towards their goal of reducing energy use of XX% by the year 20XX.

“The purpose is not a sudden change, but rather to set a course of continuous improvement toward sustainability”



Environmental Design Charrette- 5 easy steps

Step 1a: Discuss and plan the Environmental Design Charrette

- Develop meeting purpose and objectives
- Identify tactical areas within the strategic plan to be developed
- Identify essential outcomes for each area identified

Step 1a - Deliverable:

- a. Clearly defined meeting purpose and objectives
- b. List of tactical areas to be developed
- c. List of essential outcomes for each tactical area



Step 1b: Meeting arrangements and logistics

- coordinate meeting
 - Dates
 - Location
 - Other logistics
- Arrange for meeting equipment
 - Identify needed equipment and materials

Step 1b - Deliverable: meeting room, flip charts, projector, laptop, snacks, tums, aspirin.



Team-Building

Step 2: Develop meeting invitation for participants to bring together a diverse resource of expertise.

- Identify and invite facility and site personnel as well as key external stake holders to facilitate the Greening meeting.
- Invite up to 40 people covering the following:
 - energy efficiency and renewables;
 - water and wastewater
 - waste minimization recycling;
 - landscaping and site planning;
 - indoor air quality;
 - and operations and maintenance.



- utilities
- air quality management districts
- water and wastewater management
- solid waste companies
- other regional stakeholders



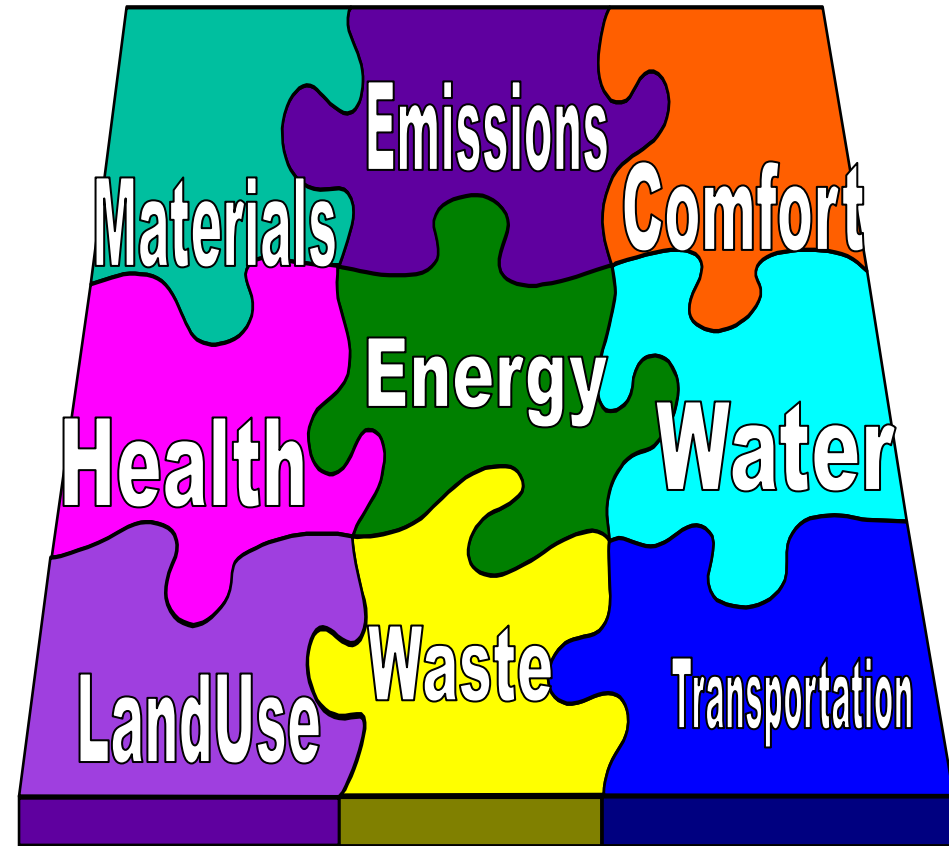
Step 2 - Deliverable: Produce an internal LAUSD invitation and contact list

For planning purposes, all invitees will cover their own travel expenses.



Step 3: Develop an agenda

- Plenary Sessions
 - Direction and motivation
- Breakout sessions
 - to identify issues and actions
 - energy
 - water and wastewater
 - Landscaping
 - waste management
 - indoor air
 - Operations and Maintenance
- Integration Sessions
 - Plenaries
 - Report out from breakouts
 - “Gallery Walk”



Step 3 - Deliverable: fully developed agenda



Key Ingredients to a Charrette



- Cooperative environment for decision makers
- intense effort to identify and address issues in a short time
- Listen to understand the needs and limitations
- Envision realistic and creative solutions
- Effectively record ideas as they go by
- Effectively express these ideas in a plan to serve as a vehicle to move the process forward

Key Ingredients (continued)

- Whole-system perspective
- Look for and exploit interactions between activities
 - between disciplines
 - between projects
- Benefits of individual activities are evaluated based on impacts on the whole system
- Match resources to needs
- Results in a plan for continuous improvement toward sustainability
 - near-term actions
 - mid-term actions
 - long-term actions
- Deliberately look for “action moments” or windows of opportunity to affect resource use.
- Effectively record ideas as they go by
- Effectively express these ideas in a plan to serve as a vehicle to move the process forward



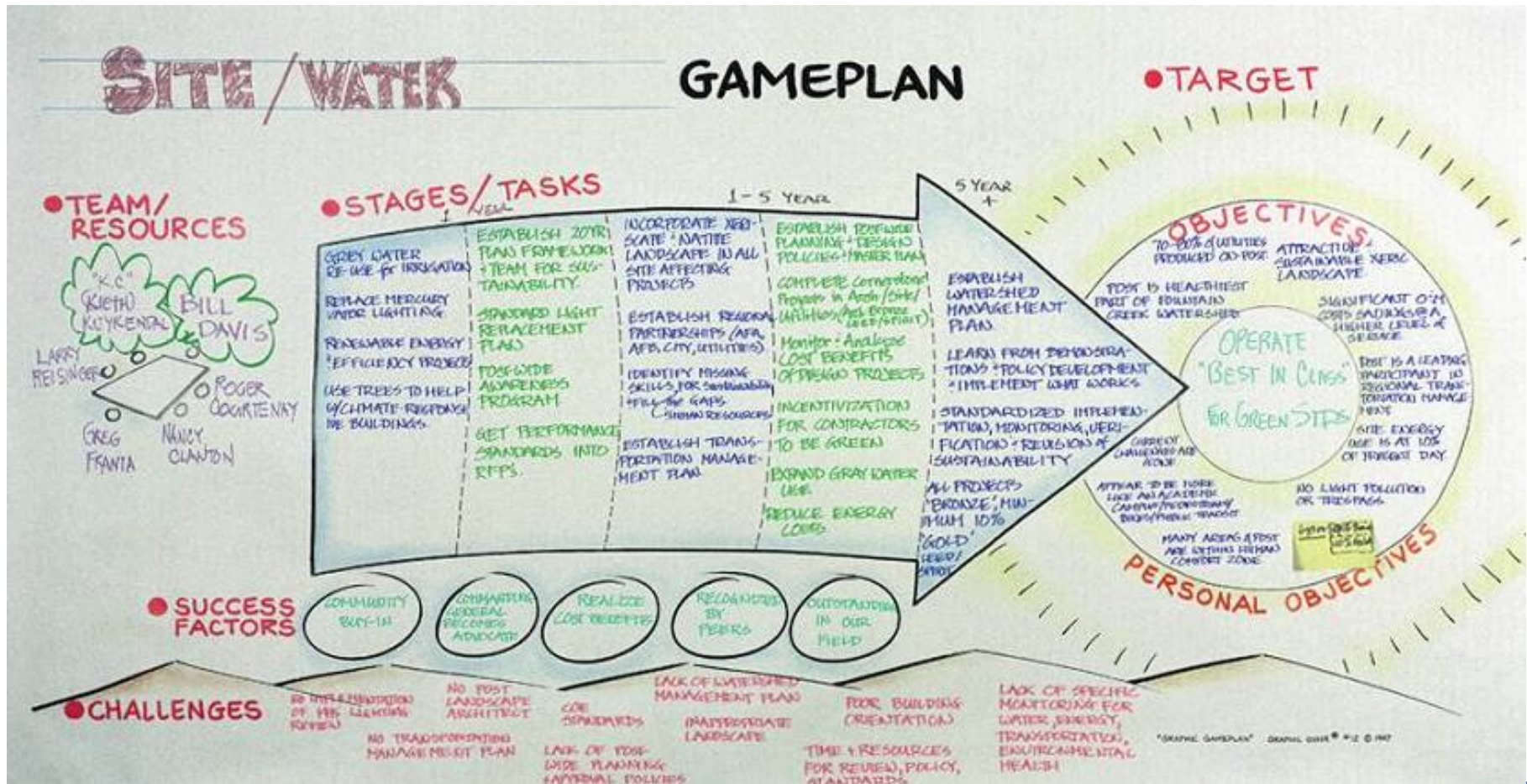
Step 4: Meeting facilitation plan

- Develop overall meeting plan
 - Develop facilitation templates to support the meeting
- Develop content for breakout sessions to address each tactical area
 - Develop results based templates for each breakout session to provide focus and reach desired outcomes
 - Identify recommendations and develop descriptions
 - Identify essential resources and financing options needed for implementing each recommendation
 - Determine a reasonable schedule for each recommendation:
 - near term actions
 - mid-term actions
 - long-term actions
 - Include windows of opportunity

Step 4 - Deliverable: fully developed results-based templates for meeting and for each breakout session.



Results-oriented Templates



Step 5: Written summary report of meeting results

- Use format appropriate for public distribution
- Include executive summary of the meeting with conclusions
- Include for each tactical area developed:
 - Recommendations with clarifying descriptions
 - Resources and financing options needed for implementation
 - A schedule identifying actions:
 - near term actions
 - mid-term actions
 - long-term actions
 - Include windows of opportunity

Step 5 - Deliverable: Final summary report



Professional Recorder



In Closing

This plan is a roadmap to guide implementation of LAUSD environmental leadership goals

The next step is to develop an implementation plan identifying specific actions and essential resources



contacts

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